Quality Control

Work Order I	D 99609	, , ,	* / /	*996		Page I					
Item ID: 646 Revision ID: Item Name: Stru Start Date: 5/24		)	*20*	Accept	*N900		100	<b>)*</b> s	Setup Start Stop	1/1/	S1* S2*
Required Date: 5/24	4/13 <b>Req'd Qty:</b> 20.00	،. (	*20*		Customer:						•
Approvals: Pr	ocess Plan: MC5	Date:	13-04-15	Tooling: SPC (Y/N):		ate:		F	Run Start Stop	171	R1* R2*
Sequence ID/ Work Center ID	Operation Description			Set Up/ Run Hours	Tool ID	Tool#	Plan Code	Accept Qty		Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr										
646.3500	N/C										610
110				0.00 ,*							4
*110* Waterjet FLOW CNC Waterjet	Dwg Rev	5.3500 plate 2 :_ <b>N/</b> C :_ <b>N/</b> C	2.75"x 1.50" as p	0.00 per Dwg			,	20 20	0	ų, č	JM13-4- JM13-4-
	2-Deburr	if necessary									
*120	QC2- Inspect parts of	f machine FA	I/FAIB	0.00				20	۵		Jm13-44
QC	Memo			0.00							<u> </u>

20

ن

NCR: Yes / No

# WORK ORDER NON-CONFORMANCE / UPDATE

DQA	A	_ 10	1	/	
DQA 💢	W/ L	Date:/丿	1061	107	,
	-				

									QA Closea:	Date:	
Work Orde	er:	996	09		DISPOSITION			AGAINST DE	PARTMENT/	<b>√</b>	
Part N		46.			Rework Scrap Use-as-is Work Order Update		Skid-tube Machining moforming Large Fab	Crosstube Small Fab Finishing Composite		Water Jet d. Eng. Coor. e/Packaging Supplier	Engineering Quality Other
IVCIVI		<u>/</u>	<del>) (</del>	<u> </u>	Work Order opadee						·
Root Cause	Date	Step	Qty		otion of work order update	Initial Chief Eng	Acti Descr		Sign & Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process	Sale Multon	140	w	the to cracki and of author	Alum turbing ind when forming it tube Apical rize us to use	5 124	Scrap All and recu See whach	3s. plate		3429 15429	Signal
Supplier Training Unapproved				Stainl	ess Steel		5 ECN! 033 013 pp	Alo			
	<del> </del>	. <b></b>			F/	AULT CATE	GORY	3.00/			
Landi	ng Gear				General			4/10	-	<b>_</b>	_
	Bending Centre N Cracks	ot Conce	ntric to	o/s	Bend BOM/Route Broken/Damaged	Grain Hardwa Inspect	are ion Incomplete	46	Ovalized Over/Under Part Incorred	<del>                                     </del>	Pressure/Forced Temperature/Cure Weld
	Crushed/	Crimped			Burrs	Instruc	tions Incomplete/U	Incle <b>k</b>	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuffs				Contamination	Maint	enance		Part Moved		
	Heat Trea				Countersink	Mislab	eled	ļ	Positioned V		7
	Inspectio	•	Tube	<u> </u>	Cut Too Short	Misrea	d		Power Loss/	Surge	Other
	Ripples ir				Drill Holes	Offset					
	Torque Waves in Extrusion Drawing				₩	Calibration -					
	Turning Sequence Finish				<del></del>	Sequence					
	Wave/Twist in Tube Folio					Outside	e Dimensions				

<b>Work Ordo</b> <i>April-11-13 2:1</i>		9609		*99				Page 2				
Item ID: Revision ID: Item Name:	646.3510 Strut			Accept	*N900	<u>040</u>	100	)*	Setup S	tart 🛪	NS NC	31* 32*
Start Date: Required Date: Reference:	5/24/13	Start Qty: 20.00 Req'd Qty: 20.00	*20* *20*		Cust Item 1 Customer:	ID:				,	14.~	\
QC: _		an:	Date:			ate:				tart *	NF NF	?1* ?2*
Sequence ID/ Work Center II 130 *130* QC Quality Control	0	Operation Description QC8- Inspect parts - seco	nd check	Set Up/ Run Hours 0.000 27 0.000 15 U	Tool ID	Tool#	Code	Accept Qty	Reject Qty	Reje Num		Insp.
*140 *140 *Small Fab Small Fab		<b>Memo</b> 1- Fabricate	tube as per dwg	0.00				20	_ <i>Q</i>	13-5	-16	
150 *150* QC		QC5- Inspect part comple	eteness to step on W/O	0.00	(13.5.16	DAS 24		20				

Quality Control

NCR:	Yes	/ No				<b>WORK ORDER NON-</b>	COI	NFORM	MANCE / UP	DATE			:
									•		QA Closed:	Date	
Work Ord	er: ˌ					DISPOSITION					PARTMENT		
Part	•			·		Rework Scrap Use-as-is		ا Therm	Skid-tube Machining Moforming	Crosstube Small Fab Finishing	-	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR I	No.					Work Order Update	ال		Large Fab	Composite	J	Supplier	
Root Cause		Date	Step	Qty		ption of work order update or Non-conformance	1	Initial nief Eng		tion ription	Sign & Date	Verification	QC Inspector
Doc/Data			<u> </u>										
Equip/Tooling													
Operator				]			1					·	
Material			1										
Setup													
Other		•											
Process													
Supplier													
Training													
Unapproved													
						<u> </u>	AUI	LT CATE	GORY				
Landi	ng G	iear				General		_			=		
	Ш	Bending				Bend		Grain			Ovalized		Pressure/Forced
	Ш	Centre No	ot Concer	ntric to (	D/S	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
	Ш	Cracks				Broken/Damaged		Inspecti	on incomplete		Part Incorre	ct	Weld
	Ш	Crushed/	Crimped.			Burrs	$\perp$	Instruct	ions Incomplete/	Unclear	Part Lost/M	issing	Wrong Stock Pulled
	Ш	Cuffs				Contamination		Mainte	nance		Part Moved		
	Ш	Heat Trea	it		Ŀ	Countersink		Mislabe	led		Positioned V	_	<del>-</del>
		Inspectio	n Strip in	Tube		Cut Too Short		Misreac	i	L	Power Loss/	'Surge	Other
	$\square$	Ripples in	Bend			Drill Holes		Offset					
	Torque Waves in Extrusion				1	Drawing	Out of Calibration						

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Ord		<b>2609</b>		*996	S09*						Page 3
Item ID: Revision ID: Item Name:	646.3510 Strut			Accept	*N900	<b>040</b>	100	)*	Setup Sta	1 7	IS1* IS2*
Start Date: Required Date Reference:	5/24/13 e: 5/24/13	Start Qty: 20.00 Req'd Qty: 20.00	*20* *20*		Cust Item I Customer:	D:			Run Start **		
Approvals:	Process Pl	an:	Date:	Tooling: SPC (Y/N):	<del></del>	nte:		]	Run Sta Ste	17	JR1* JR2*
Sequence ID/ Work Center 160 *160* Large Fab	ID	Weld per dwg A/R Alui  Memo  Weld tube to	ninum rod Batch: M [33] p plate as per dwg. ere tube is punch.	Set Up/ Run Hours 0.00	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Numbe	
170 *170* QC Quality Control	,	QC9- Inspect visual per (	QSI004- Fusion Welds	0.00 <b>DAS</b> 0.00	13.516			20	<u> </u>		

180

\*180\*

Quality Control

Memo

QC5- Inspect part completeness to step on W/O

0.00

24 13.5.16

NCR: Y	es / N	0			WORK ORDER NON-	COI	NFORN	MANCE / UPDA	TE			<i>‡</i>
										QA Closed:	Date	2:
Work Orde	er:				DISPOSITION				AGAINST DE	PARTMENT	PROCESS	
Part N	lo				Rework Scrap Use-as-is Work Order Update		Therm	Machining noforming	Crosstube Small Fab Finishing Composite		Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root				Descri	ption of work order update		Initial	Action	)	Sign &		
Cause	Dat	e Step	Qty	(	or Non-conformance	Ch	nief Eng	Descript	ion	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved					F	AUI	LT CATE	GORY				
Landir	ng Gear				General							
	Bendi Centr Crack Crush Cuffs Heat Inspe	Not Conce sed/Crimped reat ction Strip in	d. n Tube		Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes		Instruct Mainte Mislabe Misread Offset	on Incomplete ions Incomplete/Unc nance led		Ovalized Over/Under Part Incorre Part Lost/M Part Moved Positioned V Power Loss/	ct issing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
. 1	Toron	a Mayor in	Extrucio	n 1	Drawing	1	IOut of C	`alibration				

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Ord April-11-13 2:				*996	n9*					Page 4
Item ID:	646.3510	)		Accept	*N900	04010	<b>n</b> * <sup>5</sup>	Setup Star	rt *N	S1*
Revision ID: Item Name:	Strut							Sto		S2*
Start Date:	5/24/13	Start Qty: 20.00	*20*		Cust Item I	D:			1.4	1
Required Date	: 5/24/13	Req'd Qty: 20.00	*20*		Customer:					I.
Reference:										
Approvals:	Process	Plan:	Date:	Tooling:	Da	ate:		Run Star	I <i>Z</i> I	R1*
			Date:	_		ate:	-	Sto	*N	R2*
Sequence ID/ Work Center I  190  *100* Outsource4  Outsource process  200  *200* Packaging  Packaging		Operation Description Outsource process Anodi Memo Issue P/O: Anodize as p Receive & Inspect for Da Memo	er dwg	Set Up/ Run Hours 0.00 0.00	Tool ID	Tool # Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210 *210* QC Quality Control	·	QC5- Inspect part comple	eteness to step on W/O	0.00						

												DQA:	Date	e: _	,
NCR:	Yes	/ No					WORK ORDER NON-O	COI	VFOR	MANÇE / UPI	DATE	QA Closed:	Date	e:	
<del></del>							DISPOSITION				AGAINST DE				1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Nork Ord	er: .						/	ה !				1	14/ator 1at[	$\neg$	Engineering
Part I	No.						Rework Scrap Use-as-is			Skid-tube Machining noforming	Crosstube Small Fab Finishing	4	Water Jet d. Eng. Coor. e/Packaging		Engineering Quality Other
NCR I	۷o.						Work Order Update	]		Large Fab	Composite		Supplier		
Root					Des	cri	otion of work order update		nitial	Act	tion	Sign &			
Cause		Date	Step	Qty		C	or Non-conformance	Cr	ief Eng	Desci	ription	Date	Verification		QC Inspector
oc/Data														١	
quip/Tooling	$\vdash$										•				
perator	<del> </del>														
laterial	Н	-													
etup	Н														
ther	$\vdash$							1							
rocess	Н														ļ
upplier	Н														
raining	Н														
napproved	ш		L	<u> </u>			· F	ΔΠ	T CATE	GORY		<u>.                                    </u>	L		
Landi	ng C	iear	**				General								
	_	Bending					Bend		Grain			Ovalized	Γ		Pressure/Forced
	Bending Centre Not Concentric to O/S					BOM/Route	$\vdash$	Hardwa	re		Over/Under	tolerance	-	Temperature/Cure	
	Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct	<u> </u>	Weld		
	Crushed/Crimped.				Burrs		4	ions Incomplete/I	Unclear	Part Lost/M	issing	7	Wrong Stock Pulled		
					Contamination		Mainte	·		Part Moved	•				
					Countersink		Mislabe	led		Positioned V	Vrong				
	<b>├</b>						Cut Too Short		Misread	i		Power Loss/Surge Other			Other
		Ripples in					Drill Holes		Offset		<u> </u>	_	•		
	Torque Waves in Extrusion						Drawing	Out of Calibration							

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Orde		609		*996	S09*							Page 5
tem ID: Revision ID: tem Name:	646.3510 Strut			Accept	*N900	040	100	)*	Setup	Start Stop	I VI .	S1* S2*
Start Date: Required Date: Reference:	5/24/13 : 5/24/13	Start Qty: 20.00 Req'd Qty: 20.00	*20* *20*		Cust Item Customer:					G		
Approvals:	Process Pla	an:	Date:	Tooling:	D	ate:			Run	Start	*NI	R1*
	QC:		Date:	SPC (Y/N):	D	ate:				Stop	*NI	R2*
Sequence ID/ Work Center II 220 *770* SprayPaint Spray Painting	D	Memo Prime as per Batch: 12.		Set Up/ Run Hours 0.00 0.00	Tool ID	Tool#	Plan Code	Accep Qty 70	Qt		Reject Number	Insp. Stamp  5 R/w  -05-23
QC Quality Control		Memo		0.00	11.5764			Corty				· · · · · · · · · · · · · · · · · · ·
240		Receive & Inspect for Da	mage & Mat'l Certs	0.00								.
* <b>74</b> 0* Packaging Packaging		Memo ***IDENTIF REV***	FY AS PER APICAL MPP	0.00 120 BY STAMPING TI	HE P# AND							

M.N. ST543

20x

13/05/23

										DQA:	Date:	
NCR: Yes	/ No				WORK ORDER NON-C		NFORI	MANCE / UP	DATE	QA Closed:	Date:	
Work Order:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
	Part No.				Rework Skid-tube Crosstube  Scrap Machining Small Fab  Use-as-is Thermoforming Finishing				Small Fab	ł	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality
NCR No.					Use-as-is Use-as-is Work Order Update	Use-as-is Thermoforming Finishing						Other
Root				Descri	ption of work order update	Ī	nitial	Ac	tion	Sign &		
Cause	Date	Step	Qty	(	or Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data												
Equip/Tooling	1											
Operator	1					1						
Material												
Setup	1											
Other	1											
Process	1											

			FAU	LT CATEGORY			
Landing	Gear	General			 <u>_</u> :		
	Bending	Bend		Grain	Ovalized	Pres	ssure/Forced
	Centre Not Concentric to O/S	BOM/Route		Hardware	Over/Under tolerance	Tem	nperature/Cure
	Cracks	Broken/Damaged		Inspection Incomplete	Part Incorrect	Wel	d
	Crushed/Crimped.	Burrs		Instructions Incomplete/Unclear	Part Lost/Missing	Wro	ong Stock Pulled
	Cuffs	Contamination		Maintenance	Part Moved	_	
	Heat Treat	Countersink		Mislabeled	Positioned Wrong		
	Inspection Strip in Tube	Cut Too Short		Misread	Power Loss/Surge	Oth	er
	Ripples in Bend	Drill Holes		Offset			
	Torque Waves in Extrusion	Drawing		Out of Calibration			
	Turning Sequence Finish			Out of Sequence			
	Wave/Twist in Tube Folio			Outside Dimensions			

Supplier Training Unapproved

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<b>Work Order ID 99609</b> April-11-13 2:17:06 PM							Page 6					
Item ID: Revision ID: Item Name:	646.3510 Strut			Accept	*N900	<b>040</b>	100	)*	Setup	Start Stop		S1* S2*
Start Date: Required Date: Reference:	5/24/13 : 5/24/13	<b>Start Qty:</b> 20.00 <b>Req'd Qty:</b> 20.00	*20* *20*		Cust Item I Customer:	D:						
Approvals:	Process I	Plan:	Date:	Tooling: SPC (Y/N):		ate: ate:		-	Run	Start Stop	*N *N	R1* R2*
Sequence ID/ Work Center I	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accep Qty	t Re Qt	•	Reject Number	Insp. Stamp
*250 *250* QC		QC21- Final Inspection -	Work Order Release	0.00						3/5	1/2	74

Quality Control

N305.24

NCR: Yes / No WORK ORDER NON-CONFORMANCE / UPDATE														
					•						of the district of the same of	QA Closed:	Date:	
Work Order:								AGAINST DEPARTMENT/PROCESS						
Part No						Rework Skid-tube Crosstube Scrap Machining Small Fab Use-as-is Thermoforming Finishing Work Order Update Large Fab Composite		Finishing	Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier		Engineering Quality Other			
Doot	-	1		,	Dose	rir	otion of work order update	1	nitial	Acti	ion	Sign &		
Root		Date	Step	Qty	Desc	•	or Non-conformance		hief Eng Description			Date	Verification	QC Inspector
Cause oc/Data		Date	steh	Qty			i Non-comormance	Cil	ici Liig	Descri	iption	Date	Vermedien	Qe mspector
oc/Data quip/Tooling		1												
perator														
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rocess												1		
upplier														
raining												-		
napproved												Ì		
							F/	AUL	T CATE	GORY		<u> </u>		
Landi	ng (	Gear					General							
		Bending			ſ		Bend		Grain			Ovalized		Pressure/Forced
		Centre No	t Concer	ntric to	o/s		BOM/Route		Hardware			Over/Under tolerance		Temperature/Cure
		Cracks					Broken/Damaged		Inspection Incomplete			Part Incorrect		Weld
	Crushed/Crimped.			Burrs		Instructions Incomplete/Unclear		Inclear	Part Lost/Missing		Wrong Stock Pulled			
	Cuffs Contamination		Contamination		Maintenance		Part Moved							
	Heat Treat Countersink			Countersink		Mislabeled			Positioned Wrong					
		Inspection	Strip in	Tube			Cut Too Short		Misread			Power Loss/Surge		Other
		Ripples in	Bend				Drill Holes		Offset		_			
		Torque W	aves in E	xtrusio	n [		Drawing		Out of 0	Calibration				
		Turning Se	equence				Finish		Out of S	Sequence				
	Wave/Twist in Tube Folio			Folio		Outside Dimensions								

DQA:

Date:

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### **Picklist Print**

April-15-13 11:52:34 AM

Parent Item Name: Strut

Work Order ID: 99609

Parent Item:

646.3510

\*99609\*

\*646 3510\*

**Start Date:** 5/24/13

Required Date: 5/24/131

Page 1

**Start Qty: 20.00** 

Required Qty: 20.00

**Comments:** 

IPP REV:A 12.10.19 NEW ISSUE DD VERF:JLM

Component Item ID/ Replacement Mfg/ Bin Primary Last Route Unit of Qty on Qty per Kit Total Item Name Item ID Qty Date Purch Item Location Location Status Seq ID Measure Hand Issued Qty Issued Purchased No sf 232.8625 \*\*

M3045 063" thick

L> 124572

Purchased

1.0 S.F.

No

123135 124003

Location

MAT021

232.8625 120.5625

Loc Qty

112.3 f 131.8500

Loc Code

Loc Code

\*\*

124003

16.8

Q 13-5-16

M304 TO 500 W 049

Location MAT014

Loc Qty

112083

131.85 131.85

M123449 X 15.751

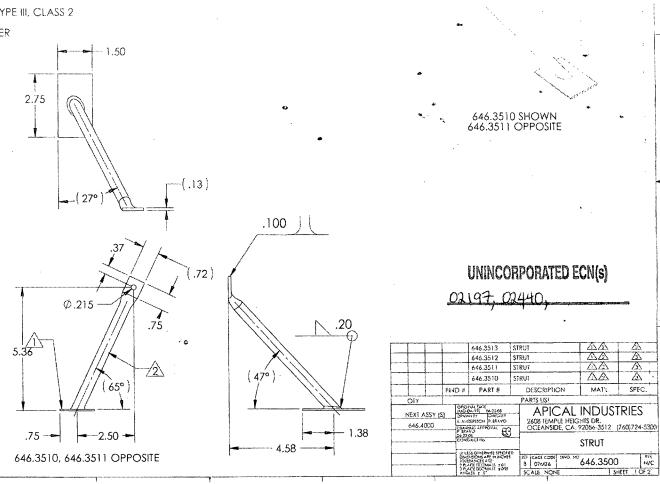
See attach E-mail S== = N = N

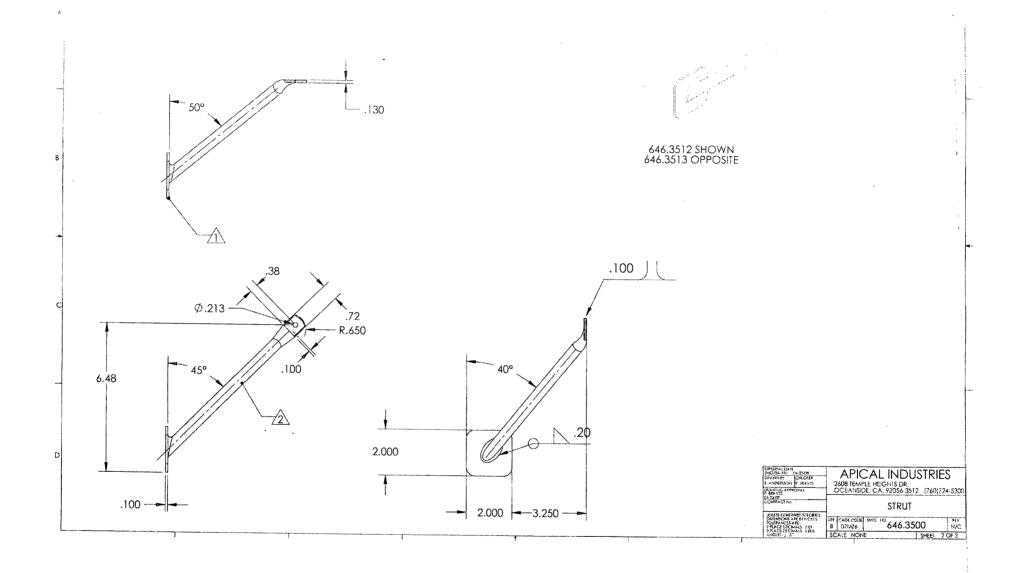
	ENGINEERING CHANGE NOTICE NO. 02197 SHEET 1 OF 1
APICAL	DWG NO. 646.3500 REVIN/C PREPARED S. HUFF DATE: 01/05/09 EFFECT ON DWG
INDUSTRIES, INC.	DWG TITLE: STRUT
	APPROVED BY ENGR 3:000 MFG LEFF: NEXT ORDER
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE	REASON: REVISED ANGLE OF 646.3512 & 646.3513 FOR BELTER PITMENT
SHEET 2, IS	38 72 646 3512 SHDWN 646 3513 EPFOSITE 10 10 10 10 10 10 10 10 10 10 10 10 10
	□ MDL □ INSTALL INSTRUC □ ICA □ FMS □ B□M □ MAJ□R ☒ MIN□R □ YES ☒ N□

MATERIAL: 6061-T6 ALUMINUM IAW AMS-QQ-A-250/11; .062" THK.

FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2 COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER PRIME IAW MIL-P-23377J TYPE I CLASS N

- 4. DEBURR AND BREAK ALL SHARP EDGES
- 5. WELDS IAW MIL-STD-2219. TIG WELD WITH FILLER ROD





DART AEROSPACE LTD	Work Order:	99609
Description: 5trut	Part Number:	646.3510
Inspection Dwg: Ø/6/6.35 Rev: ∧/८		Page 1 of 1

## FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.50"	tl-0030°	1.502"	_		J	Jhmoi
ଅ. २५°	11-0000	2.754"	-		V	
0.063	41-0.0100	0.060	-		V	
1.50	tL0.010	1.503	<u>-</u>		U	Jemoi
2.75	11-0,010	2-755	-		J	
0.063	H-0.010	0.058	-		~	
					V	*****
			!			,
		·				
	·					
			<b>α</b> Δ 5			

Measured by:  $J_M$  Audited by: Preliminary Approval:

Date: 13-4-18

Date: 13-4-19

Date: 13-4-19

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

\$ 10.04.15

Recent

#### **David Duval**

From:

Pablo Bravo

Sent:

Wednesday, April 24, 2013 2:23 PM

To:

Jean-Luc Menard

Cc:

David Duval; Linda Lacelle

Subject:

RE: 646.3510/3511/3512/3513 STRUT ASSY

JL,

This should be okay.

Pablo

From: Jean-Luc Menard

Sent: Wednesday, April 24, 2013 9:15 AM

To: Pablo Bravo

Cc: David Duval; Linda Lacelle

**Subject:** Fwd: 646.3510/3511/3512/3513 STRUT ASSY

Any news on this?

Sent from my iPhone

#### Begin forwarded message:

From: Jean-Luc Menard < imenard@dartaero.com >

**Date:** 22 April, 2013 10:27:05 AM EDT **To:** Pablo Bravo <a href="mailto:pbravo@dartaero.com">pbravo@dartaero.com</a>

Cc: David Duval < dduval@dartaero.com >, Linda Lacelle < llacelle@dartaero.com >

Subject: 646.3510/3511/3512/3513 STRUT ASSY

Hi Pablo,

We have started manufacturing the struts and have run into some problems with cracking when punching/bending the end of the struts.

Would going to 304 ss tubing with .049" wall be an acceptable deviation? This would include changing the bottom plate that gets welded on also to SS. Let me know asap so I can attach to the w/o and if acceptable I will issue a ECR.

THX

JL

#### Jean-Luc Menard

From:

Pablo Bravo

Sent:

April-24-13 2:23 PM

To:

Jean-Luc Menard

Cc:

David Duval; Linda Lacelle

Subject:

RE: 646.3510/3511/3512/3513 STRUT ASSY

JL,

This should be okay.

Pablo

From: Jean-Luc Menard

Sent: Wednesday, April 24, 2013 9:15 AM

To: Pablo Bravo

Cc: David Duval; Linda Lacelle

**Subject:** Fwd: 646.3510/3511/3512/3513 STRUT ASSY

Any news on this?

Sent from my iPhone

#### Begin forwarded message:

From: Jean-Luc Menard < imenard@dartaero.com >

**Date:** 22 April, 2013 10:27:05 AM EDT **To:** Pablo Bravo <a href="mailto:pbravo@dartaero.com">pbravo@dartaero.com</a>

Cc: David Duval < dduval@dartaero.com >, Linda Lacelle < llacelle@dartaero.com >

Subject: 646.3510/3511/3512/3513 STRUT ASSY

Hi Pablo.

We have started manufacturing the struts and have run into some problems with cracking when punching/bending the end of the struts.

Would going to 304 ss tubing with .049" wall be an acceptable deviation? This would include changing the bottom plate that gets welded on also to SS. Let me know asap so I can attach to the w/o and if acceptable I will issue a ECR.

THX

JL